

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1.-34. (Cancelled)

35. (New) A method of changing the sensory perception of an animal, wherein the method comprises administering to the inner ear a pharmaceutical composition comprising a non-group C adenoviral vector comprising (a) a nucleic acid sequence encoding an atonal-associated factor operably linked to a promoter that specifically functions in supporting cells of the inner ear and (b) a chimeric coat protein ablated for binding to a native adenovirus receptor and comprising a non-native ligand, which non-native ligand enhances uptake of the adenoviral vector by cells of the inner ear, wherein the nucleic acid sequence is expressed to produce the atonal-associated factor resulting in generation of sensory hair cells that allow perception of stimuli in the inner ear.

36. (New) The method of claim 35, wherein the atonal-associated factor is a β -helix-loop-helix transcription factor.

37. (New) The method of claim 36, wherein the β -helix-loop-helix transcription factor is MATH1.

38. (New) The method of claim 36, wherein the β -helix-loop-helix transcription factor is HATH1.

39. (New) The method of claim 35, wherein the promoter is a hes-1 promoter.

40. (New) The method of claim 35, wherein the adenoviral vector comprises an adenoviral genome having a deficiency in at least one replication-essential gene function of the E1 region.

41. (New) The method of claim 40, wherein the adenoviral vector comprises an adenoviral genome having a deficiency in at least one replication-essential gene function of the E4 region.

42. (New) The method of claim 41, wherein the adenoviral vector comprises a spacer in the E4 region.

43. (New) The method of claim 35, wherein the chimeric coat protein is a chimeric fiber protein.

44. (New) The method of claim 43, wherein the non-native ligand is a polylysine or polyarginine sequence.

45. (New) The method of claim 35, wherein the pharmaceutical composition further comprises a viral vector comprising a nucleic acid sequence encoding a neurotrophic agent or a proliferating agent.

46. (New) The method of claim 45, wherein the viral vector comprising the nucleic acid sequence encoding the atonal-associated factor and the viral vector comprising the nucleic acid sequence encoding the neurotrophic agent or the proliferating agent are the same viral vector.

47. (New) The method of claim 45, wherein the neurotrophic agent is a tumor growth factor, brain-derived neurotrophic factor, or nerve growth factor.

48. (New) The method of claim 45, wherein the proliferating agent is selected from the group consisting of fibroblast growth factors (FGFs), vascular endothelial growth factors (VEGFs), epidermal growth factor (EGF), E2F, and cell cycle up-regulators.

49. (New) The method of claim 35, wherein the adenoviral vector is of subgroup A, subgroup B, subgroup D, subgroup E, or subgroup F.

50. (New) The method of claim 49, wherein the adenoviral vector is of subgroup B or subgroup F.

51. (New) The method of claim 49, wherein the adenoviral vector is of serotype 35 or serotype 41.

52. (New) The method of claim 35, wherein the adenoviral vector comprises a fiber protein ablated for binding to a coxsackie and adenovirus receptor (CAR).

53. (New) The method of claim 35, wherein the adenoviral vector comprises a penton base protein ablated for binding to one or more integrins.